

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

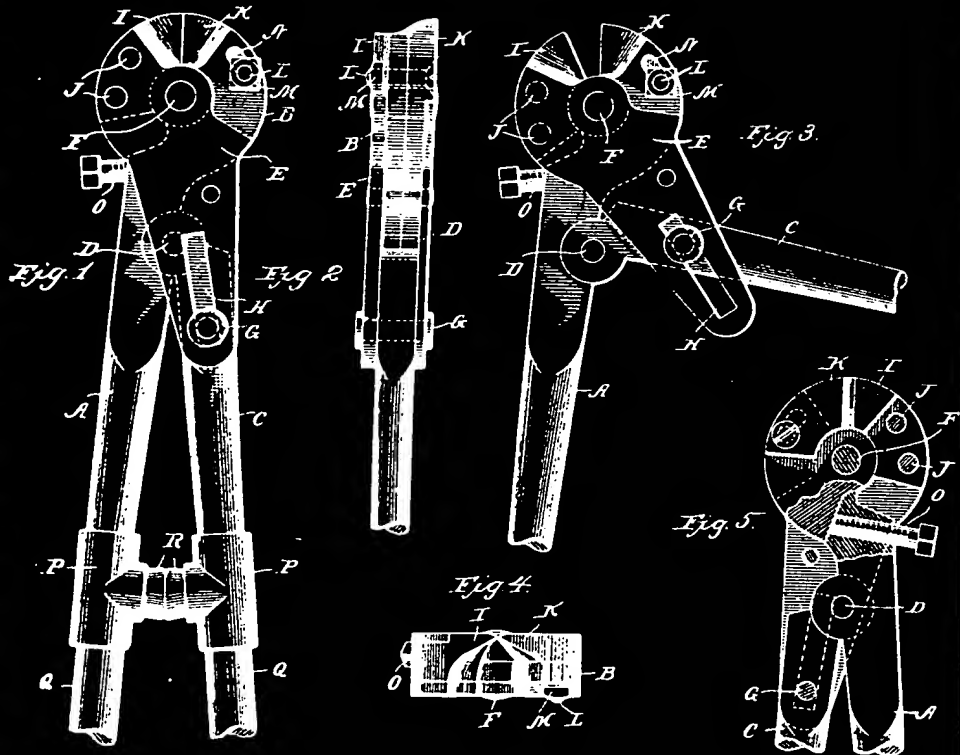
**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

THIS PAGE BLANK (USPTO)

A.D. 1901. Oct. 10. N^o. 20,244.

ROADBOOKS' COMPLETE SPECIFICATION.

SHEET 1.



THIS PAGE BLANK (USPTO)

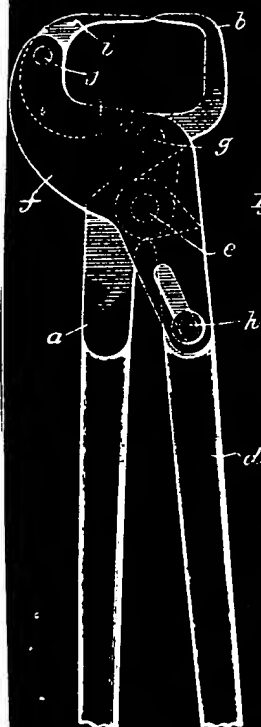


Fig. 6.

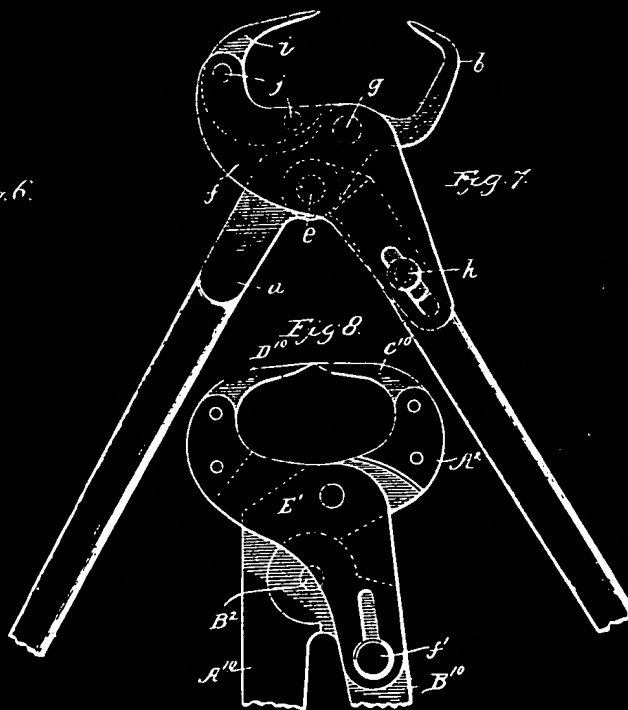
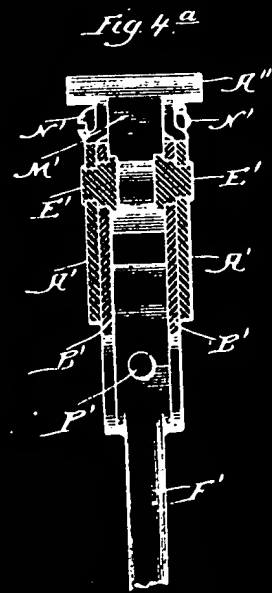
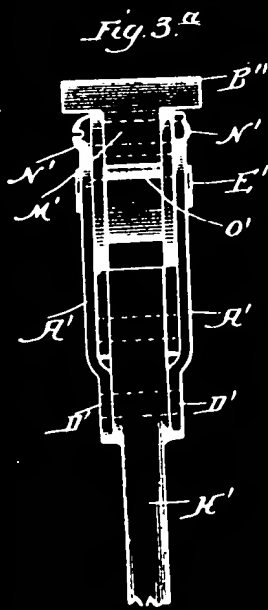
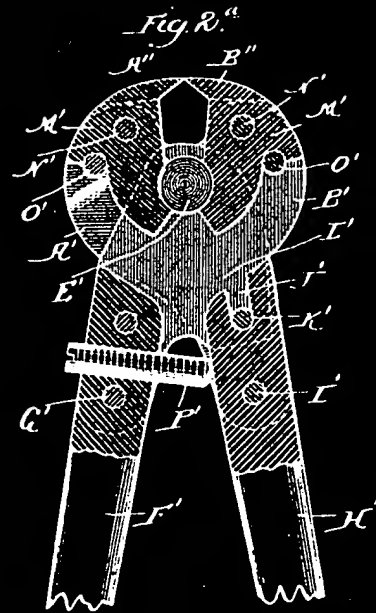
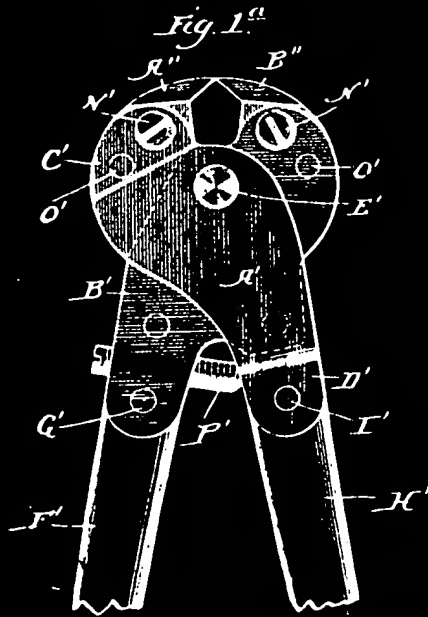


Fig. 7.

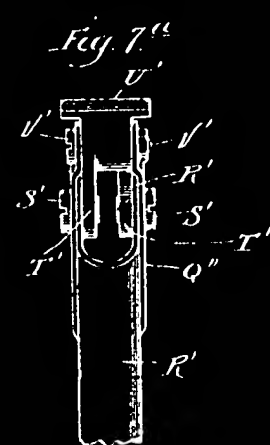
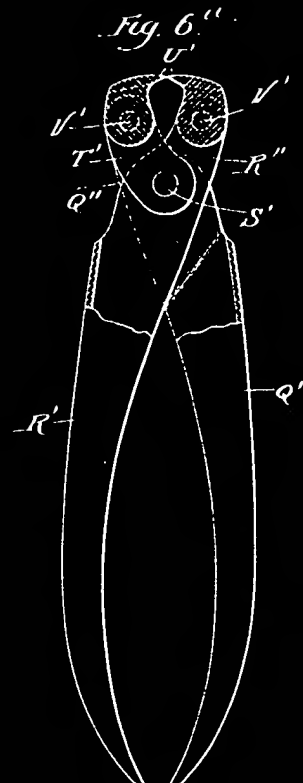
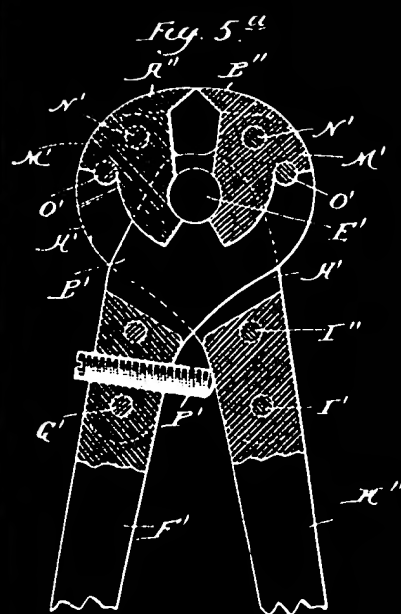
Fig. 8.

This drawing is a reproduction of the Original on a reduced scale

THIS PAGE BLANK (USPTO)



THIS PAGE BLANK (USPTO)



This drawing is a reproduction of the original on a reduced scale.

THIS PAGE BLANK (USPTO)

N^o 20,244



A. D. 1901

Date of Application, 10th Oct., 1901—Accepted, 23rd Jan. 1902

DUPLICATE

COMPLETE SPECIFICATION.

Improvements in Bolt Clippers, Farriers' Hoof Parers, Nippers and the like.

I, PETER BROADBOOKS, of Batavia, County of Genesee, and State of New York, United States of America, Gentleman, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification;

My invention relates to a new and useful improvement in bolt clippers, farriers' hoof parers, nippers and the like, and has for its object to so construct devices of this description as to render them simple, convenient and effective.

- 10 Fig. 1 is a side view of a pair of bolt-clippers;
- Fig. 2, an edge view thereof;
- Fig. 3, a similar view to Figure 1, showing the jaws of the clippers opened;
- Fig. 4, a front edge view of the device, illustrating the shape of the jaws;
- Fig. 5, a section, portions of which are broken away to show the manner of
- 15 adjusting the cutting-jaws;
- Fig. 6, a side view of a hoof-parer in its closed position;
- Fig. 7, a similar view showing the jaws of the device open;
- Fig. 8, illustrates my improvement as applied to cut-off pliers;
- Fig. 1^a, a side view of a pair of nippers made in accordance with my improve-
- 20 ment;
- Fig. 2^a, a section thereof, showing the interior construction;
- Fig. 3^a, an edge view illustrating the interlocking of the side plates;
- Fig. 4^a, a section also showing the interlocking of the side plates and the arrangement of the central pivot, which serves to connect these plates;
- 25 Fig. 5^a, a view similar to Figure 2^a, showing my improvement adapted to a pair of nippers of the simple lever form;
- Fig. 6^a, a section of a pair of nippers intended for light work, the handles of which are made of sheet metal;
- Fig. 7^a, an edge view of the upper portion of these nippers;
- 30 Fig. 8^a, a detail perspective of one of the jaws thereof.

In Figures 1 to 5, inclusive, A represents one of the handles, which has formed therewith an extension or head B, and to this handle is pivoted the second handle C by the stud D. A jaw-carrier E, consisting of two plates pivoted by the stud F to the head B, embraces the head, and the heel ends of these plates

35 are connected with the handle C by means of the swiveled stud G, which turns in the handle, but is fitted to slide in the slots H in said plates, as clearly illustrated in Figures 1 and 2. A jaw I is secured by the rivet-pins J between the carrier-plates, so as to be rigid therewith, while a second jaw K is secured to the head B by means of the stud F and a screw-bolt L, the latter having a nut M

40 run thereon for clamping the jaw to the head, and this jaw is made adjustable by means of a slot N formed in the head, through which the screw-bolt passes, and is thereby permitted to have a limited movement, and this adjustment is effected by the set-bolt O, which is threaded through the handle A, and the end thereof bearing against the heel of the jaw K, as clearly shown in Figure 5. By

45 this arrangement it will be seen that when it is desired to adjust this jaw it is only necessary to loosen the nut M and manipulate the set-bolt O so as to force the jaw forward upon the stud F as a pivot or permit it to swing in a reversed direction, after which the resetting of the nut M will again secure the jaw in

[Price 8d.]

Improvements in Bolt Clippers, Farriers' Hoof Parers, Nippers and the like.

its adjusted position. This, as is obvious, is of considerable importance in this class of tools, since it permits the regulation of the jaws relative to each other, so that when they are sharpened or otherwise worn away their proper active position may be maintained.

It will be seen that the compound leverage produced by the connection between the handle C and the heels of the carrier-plates E will facilitate the effective application of power to the jaws, thus enabling the device to perform its work with but little exertion upon the part of the operator.

The handles A and C are here shown as having the T-couplings P attached thereto, and in turn the extension Q, attached to the couplings so as to increase the leverage of the device, while at the same time providing sockets for the rubber buffers R, which serve to prevent the jaws from being injured by contact with each other when not in use, and yet the compressibility of these buffers will prevent interference with the working of the device.

The cost of manufacture of a tool of this description is comparatively small, since the parts thereof are not complicated and the assembling of the device is exceedingly simple; and, further, no unnecessary weight is added thereto, since the operative parts are small and compact and yet so disposed as to receive the strains imparted thereto to the best advantage.

The paring-tool shown in Figures 6 and 7 consists of a handle *a*, which has formed therewith a hooked jaw *b*, and to the handle *a* is pivoted a second handle *d* at *e*. *f* represents the jaw-carrier, which is composed of two plates pivoted at *g* to the handle *a*, and the heels of these plates are connected with the handle *d* by the swiveled stud *h*, passing through suitable slots formed in said heels. A curved jaw *i* is secured between the carrier-plates by the pins *j*, and this jaw, in conjunction with the jaw *b*, serves the purpose for which such tools are intended, it being obvious that when the handle *a* and *d* are swung apart then the stud *h* will also swing the carrier-plates *f* in such manner as to separate the jaws *b* and *i*, as shown in Figure 7. This construction makes a simple and effective tool and may be manufactured at a small cost.

Figure 8 shows my improvement embodied in a pair of cut-off pliers, and consists of the handle A¹⁰, having an extension or head A² in which is secured the jaw C¹⁰, and to this handle is pivoted a handle B¹⁰ at B², and the head or extension A² has pivoted thereto a carrier E¹ consisting of two plates embracing the head, and these plates are connected to the handle B¹⁰ by the stud F¹, the outer end of the carrier having secured therein the jaw D¹⁰. This device has all the elements of the construction before described, the difference being only in the design and shape of the jaws.

In Figure 1^a to 4^a, inclusive, I form the head of the nippers by the use of two pairs of plates A¹ and B¹, which may be made of sheet metal or forgings, the pair of plates A¹ having off-sets C¹ and D¹ formed thereon so as to bring the front and rear extension thereof into alignment with the front and rear extension of the plate B¹ for the purpose hereinafter set forth.

The pairs of plates are pivoted together by the studs E¹, which have enlarged heads which abut against the inside of the plates B¹. The outer ends of these studs E¹ are riveted outside of the plates A¹. The plates A¹ are pivoted upon a portion of the studs E¹ which is turned down smaller than the portion upon which the plates B¹ are pivoted, so as to form the shoulder against which the inside of the plates A¹ will abut for the purpose of preventing the plates A¹ and B¹ from being bound too tightly together when the studs E¹ are riveted. As a matter of fact, the riveting of the studs E¹ would cause the plates A¹ and studs E¹ to move in unison, and the plates B¹ are pivoted upon the studs E¹, but this is not essential, as both the plates A¹ and B¹ could turn loosely upon the studs E¹. The stationary handle F¹ is secured by rivet-pins G¹ to the rear extensions of the plates B¹, so as to be rigid therewith, and this handle is preferably made by forging in order that relative to its weight it may be exceedingly strong. The handle H¹ is made similar to the handle F¹ and is pivoted by the

Improvements in Bolt Clippers, Farriers' Hoof Parers, Nippers and the like.

rivet-pin I¹ between the rear extension of the plates A¹, which, on account of the offsets D¹, fits snugly against the handle. The forward end of the handle H¹ is slotted, as indicated at J¹, and this slot embraces the rivet-pin K¹, the latter being secured to the heels L¹ of the plates B¹. Thus, as is obvious, a compound lever will be formed for the operation of the plates A¹, and the go and come incident to the movements of the lever H¹ are provided for in the slot J¹.

The jaws A¹¹ and B¹¹ are secured in the forward extensions of the plates A¹ and B¹, respectively, in the following manner:

10 These jaws being provided with the shanks M¹, said shanks are fitted between the plates and the screw-bolts N¹ passing through the plates and the shanks, while the rivet-pins O¹ are secured in the plates and fit in notches formed in the shanks of the jaws, as clearly shown in Figure 2^a, while the inner end of the shanks fit around the heads of the studs E¹ in such manner as to ride thereon after the manner of a fulcrum, and the heads of these studs are thus caused to take up a portion of the strain brought to bear upon the jaws when in operation. This arrangement permits the ready removal of either or both of the jaws by simply removing one or both of the screw-bolts N¹, as will be readily understood, and this is of considerable advantage, since the remainder of the nippers do not have to be taken apart, and the jaws may thereby be sharpened and replaced with but little loss of time or others may be substituted therefor when necessary.

20 In order that the cutting edges of the jaws which are adapted to meet may not be injured by coming in contact with each other with undue force, a gage-screw P¹ is threaded through the handle F¹ and adapted to limit the inward movement of the handle H¹. This screw may be adjusted from time to time, as necessity requires, to compensate for wear upon the cutting edges of the jaws by sharpening and the like. This construction makes an exceedingly rigid and durable pair of nippers for heavy work, and the compound leverage thereof permits the application of great power to the jaws while avoiding the use of complicated forgings or castings, this minimizing the cost of the tool while increasing its efficiency.

30 In Figure 5^a I have embodied my improvement in simple lever-nippers in which the handle H¹¹ is secured directly to the plates A¹ by the rivet-pins I¹, and, if desired, this handle may be forged with said plates; but I prefer that it be made in a separate piece, as greater strength for a given weight is thereby secured. The remainder of the tool is the same as that just described for light work.

40 My improvement may be embodied in the form shown in Figures 6^a, 7^a and 8^a, which consists of the handles Q¹ and R¹, composed of steel metal or light forgings and so formed as to terminate in the plates Q¹¹ and R¹¹, and these are pivoted together by the screws S¹, which also serve to hold the heel end T¹ of the jaws U¹ in place, said jaws being also secured by the screw-bolts V¹. The heel of each of the jaws is formed upon one side of the shank thereof, so as to be secured by one of the screws and leave an open space through the nippers for the passage of wire and the like, and this is also true in connection with the constructions before described and is the improved feature in my improvement.

50 I prefer that the threads for the reception of the pivot-screws S¹ be formed in the heels T¹, as these heels are of greater thickness than is necessary for the plates, and thus afford a better bearing for the screws. This form of nippers does not require a gage-screw, since it is for light work, and the handles being short do not permit of great pressure being brought to bear upon the jaws, and therefore the contact thereof does not injure the cutting edges.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim, is—

55 1. A bolt-clipper consisting of two handles pivoted together, one having a head or extension formed therewith, a jaw adjustably attached to said head,

Improvements in Bolt Clippers, Farriers' Hoof Parers, Nippers and the like.

means for adjusting said jaw, a carrier consisting of two plates pivoted to the head, heels formed with the plates in which are formed slots, a stud swiveled in one of the handles and passing through said slots so as to provide compound leverage, and a jaw secured rigidly to the carrier, as shown and described.

2. In a bolt-clipper, a handle A having formed therewith a head, a handle C 5 pivoted to the first-named handle, a carrier consisting of two plates pivoted to the head and attached to the handle C by a stud passing through slots therein, a jaw rigid with the carrier, an adjustable jaw attached to the head by a screw-bolt and the pivot-stud, and a set-bolt threaded through the handle A and adapted to bear against the heel of the jaw, as and for the purpose set forth. 10

3. In combination with a tool of the character described, handles A and C, T-couplings P attached thereto, extensions Q attached to the couplings, and rubber buffers R secured in the couplings, as and for the purpose set forth.

4. A pair of nippers formed of two pairs of plates, two studs pivoting said plates together, jaws secured between the forward ends of said plates, said jaws 15 having heels bearing against the heads of the pivot-studs, a stationary handle rigidly secured to one pair of the plates, a compound lever-handle pivoted between the other pair of plates and fulcrumed to the first named plates, and a gage-screw so arranged as to limit the movement of the jaws to prevent injury to their cutting edges, as specified. 20

5. In a pair of nippers, the combination of two pairs of plates so pivoted together as to leave an open space in the centre thereof, a pair of jaws detachably secured between said plates, the heels of said jaws bearing against the pivots of said plates, handles carried by said plates, and a gage-screw for determining the forward movement of the jaws, as specified. 25

6. In combination with a pair of nippers of the character described, a pair of jaws, each member of which is secured between the plates of the nippers by a single screw, and heel ends bearing against the pivot-studs of the nippers, as specified.

7. In a pair of nippers, the combination of a pair of levers interlocking and 30 pivoted together by two separate studs, two jaws, each of which is secured between the forward ends of the lever, said jaws having heels formed to one side thereof, each heel engaging one of the pivots of the lever, as specified.

Dated, this 10th day of October, A.D., 1901.

J. P. BAYLY,
18 Fulham Place, London, W. Agent for Applicant. 35